



HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 80527-2400

PATENT APPLICATION

ATTORNEY DOCKET NO. 10006371-1

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): John Wilkes

Confirmation No.: 4638

Application No.: 09/927,163

Examiner: Anh Ly

Filing Date: August 9, 2001

Group Art Unit: 2162

Title:

Mail Stop Appeal Brief-Patents
Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on Oct. 14, 2008.

☒ The fee for filing this Appeal Brief is \$540.00 (37 CFR 41.20).

☒ No Additional Fee Required.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d)) for the total number of months checked below:

☐ 1st Month
\$130

☐ 2nd Month
\$490

☐ 3rd Month
\$1110

☐ 4th Month
\$1730

☐ The extension fee has already been filed in this application.

☒ (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account 08-2025 the sum of \$ 540. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees.

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Date of facsimile:

Typed Name: Derek J. Westberg

Signature: Derek J. Westberg

Respectfully submitted,

John Wilkes

By Derek J. Westberg

Derek J. Westberg

Attorney/Agent for Applicant(s)

Reg No. : 40,872

Date : December 9, 2008

Telephone : (650) 968-0410

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Atty. Dkt. No. 10006371-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: John Wilkes)	Examiner: Anh Ly
)	
Serial No. 09/927,163)	Art Unit: 2162
)	
Filed: August 9, 2001)	Confirmation No. 4638
)	
Entitled: SELF-)	
DISENTANGLING DATA)	APPEAL BRIEF
STORAGE TECHNIQUE)	
)	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir/Madame:

This is Applicant's brief on appeal from the final office action mailed on July 10,
2008.

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(i) Real Party in Interest

The real party in interest is Hewlett-Packard Development Company, L.P., the assignee of record, which is a wholly-owned affiliate of Hewlett-Packard Company.

(ii) Related Appeals and Interferences

The Applicant is not aware of any appeals or interferences related to the above-identified patent application.

(iii) Status of Claims

Claims 1-25 and 27-33 are pending in this application. Claims 1-25 and 27-33 have been finally rejected and are the subject of this appeal. Claim 26 is canceled.

(iv) Status of Amendments

All amendments have been entered.

(v) Summary of Claimed Subject Matter

Background

Machine-readable data is generally stored digitally, as a series of logic "ones" and "zeros." For example, such data may be stored using optical, magnetic and/or electronic storage devices which may include, for example, solid-state memory devices, magnetic tape drives and optical or magnetic disk drives and arrays. Applicant's specification, page 1, lines 9-13.

Often, it is desired to store a collection of data for later retrieval in case the

original version is changed, lost or damaged. For example, a back-up copy of the data may be placed on storage media, such as a magnetic tape or floppy disk. In order for the data to be understood upon retrieval, it is generally necessary to know the format in which the data is arranged. Otherwise, the data will appear to be a random series of ones and zeros without meaning. Thus, standardized formats, such as "CPIO" (CoPy In/Out) and "TAR" (Tape ARchive) may be used for archiving data. These schemes have a drawback in that data access functionality is limited. For example, they generally require that the entire stored data structure be reconstructed. However, under certain circumstances, it may be desired to reconstruct less than the entire data structure.

Applicant's specification, page 1, lines 14-25.

Another conventional technique for archiving data is to store the data in the same format in which the software application that was used to generate the data stores and uses the data. This approach, however, has a drawback in that such application-specific data formats tend to change over time. Thus, older data formats may not be supported by newer versions of the application software. Applicant's specification, page 1, lines 26-31.

A conventional technique for reconstructing data is to append a software routine to the beginning of the original data that reconstructs the entire original data when run over the data. For example, a simple "uncompress" program is often placed at the beginning of a piece of compressed email that is able to decode the compressed format of the email data that follows. This technique has a drawback in that it also generally requires that the entire data structure be reconstructed. Applicant's specification, page 2, lines 1-7.

Accordingly, it would be desirable to provide a technique for the storage of

machine-readable data that overcomes drawbacks associated with conventional storage and reconstruction techniques. It is to these ends that the present invention is directed. Applicant's specification, page 2, lines 8-11.

Claim 1

Applicant's claim 1 is an independent claim which is directed toward "[a] method of retrieving data from a data storage medium." Figure 1 of the Applicant's specification illustrates a data storage medium 100 upon which data can be stored and from which the data can be retrieved. Figure 2 of the Applicant's specification illustrates a flowchart of a method by which data can be retrieved from a data storage medium. In addition, the Applicant's specification explains at page 4, lines 18-21, that the medium 100 may be a magnetic tape, a magnetic disk (e.g., floppy or hard disk), optical storage (e.g., CD or DVD) or solid-state storage (e.g., RAM or DRAM).

Steps of the method of claim 1 include "loading a program from the data storage medium into a computer system, the program including at least a first routine for responding to a first request type for access to data stored on the data storage medium and a second routine for responding to a second request type for access to the same data stored on the data storage medium." The Applicant's specification explains at page 4, lines 24-25, that a stored software program 108 may be stored on the media 100 along with data 102-106. This is shown in Figure 1 of the Applicant's specification. The Applicant's specification at page 6, lines 11-14, also explains that a step of the method involves retrieving the program 108 from the media 100 and loading the program into a computer system. Figure 3 of the Applicant's specification shows the program 108 being

loaded into a computer system 400 while Figure 4 shows an exemplary computer system in more detail. As is also explained at page 5, lines 1-3, the program 108 may include one or more software routines that may be invoked in response to requests for access to the data 102-106. As explained at page 7, lines 13-22, a request for access to the data may be one of two principle types: for example, one type of request may be to access the data as though the data were an image backup or a set of logical volumes. Another type of request, explained at page 7, line 27, to page 8, line 4, may be to access the data as though the data were a file system.

Claim 1 recites "the data being stored in accordance with an archival format." As explained in the Applicant's specification at page 6, line 4-6, the data may be stored in accordance with an archival format, such as CPIO (CoPy In/Out) or TAR (Tape ARchive).

Claim 1 also recites "receiving a request for access to data stored on the data storage medium." As explained in the Applicant's specification at page 7, lines 5-12, a request for access to the data may be received, for example, from an application program operating on the computer system 400 which requires access to some or all of the data.

Claim 1 further recites "determining whether the request is of the first type or the second type." As explained in the Applicant's specification at page 7, lines 13-14, the request may be, for example, one of two principle types. And, as explained at page 7, lines 11-12, a determination may be made as to the type of the request which was received.

In addition, claim 1 recites "calling the first routine for accessing the data when the request is of the first type and calling the second routine for accessing the data when

the request is of the second type." As explained in the Applicant's specification at page 7, line 14, to page 8, line 8, a routine is called that is appropriate to the type of the request.

Finally, claim 1 recites "presenting the requested data." As explained in the Applicant's specification at page 8, lines 9-10, the requested data may be returned to the requesting application.

Storing the program that can be used to access the data along with the data, as in Applicant's claim 1, isolates the data storage format from the application used to generate the data. This minimizes problems caused by outdated data storage formats. Further, the provision of multiple routines for accessing the data allows flexibility in accessing the data; for example, the data can be completely or partially reconstructed, as needed. See Applicant's specification at page 2, lines 19-23.

Claim 2

Claim 2 is dependent from claim 1 and recites "wherein the first routine implements a first set of operations and the second routine implements a second set of operations." The Applicant's specification explains at page 3, lines 6-9, page 5, lines 15-26 and page 8, line 28, to page 9, line 1, that the first routine may implement a first set of operations (e.g., including file system operations) while the second routine may implement a second set of operations (e.g., including standardized archival operations such as operations selected from CPIO and TAR).

Claim 3

Claim 3 is dependent from claim 2 and recites "wherein the first set of operations

includes file system operations." The Applicant's specification explains at page 3, lines 6-7, page 5, lines 24-26, and page 8, line 29, to page 9, line 1, that the first set of operations may include file system operations.

Claim 4

Claim 4 is dependent from claim 3 and recites "wherein the second set of operations includes standardized archival operations." The Applicant's specification explains at page 3, lines 7-9, page 5, lines 21-24, and page 8, lines 28-29, that the second set of operations may include standardized archival operations such as operations selected from CPIO and TAR.

Claim 5

Claim 5 is dependent from claim 4 and recites "wherein the second set of operations includes operations selected from CPIO and TAR." The Applicant's specification explains at page 3, lines 7-9, and page 8, lines 28-29, that the second set of operations may include operations selected from CPIO and TAR.

Claim 6

Claim 6 is dependent from claim 1 and recites "wherein the first request type includes a request for one or more files from a file system." The Applicant's specification explains at page 3, lines 9-10, and page 7, line 27, to page 8, line 4, that the first request type may include a request for one or more files from a file system.

Claim 7

Claim 7 is dependent from claim 1 and recites "wherein said presenting includes reformatting all of the data as a file structure." The Applicant's specification explains at page 5, lines 1-3, that the requests may be invoked in response to requests for reformatting the data. And, at page 3, lines 10-11, and page 6, lines 6-9, the Applicant's specification explains that the data may be presented reformatted as a file structure.

Claim 8

Claim 8 is dependent from claim 6 and recites "wherein the second request type includes a request for one or more logical volumes." The Applicant's specification explains at page 3, lines 11-12, and page 7, lines 23-26, that second request type may include a request for one or more logical volumes, in which case, an application program interface (API) routine may be called that is appropriate to this type of request.

Claim 9

Claim 9 is dependent from claim 6 and recites "wherein the second request type includes a request for an image copy of the data." The Applicant's specification explains at page 3, lines 11-12, that the second request type may include a request for an image copy of the data.

Claim 10

Claim 10 is dependent from claim 1 and recites "wherein the first request type is by a first target system type and the second request type is by a second target system

type." The Applicant's specification explains at page 5, lines 15-21, that the program 108 may include one or more software routines or application program interfaces (APIs) to accommodate different target systems, such as different virtual machine architectures, different instruction sets, different computer languages, and different operating system variants. Accordingly, as explained at page 3, lines 12-14, the first request type may be by a first target system type while the second request type may be by a second target system type.

Claim 11

Claim 11 is dependent from claim 10 and recites "wherein said presenting the requested data includes formatting the data in accordance with the target system type." The Applicant's specification explains at page 3, lines 14-16, that presenting the requested data may include formatting the data in accordance with the target system type.

Claim 12

Claim 12 is dependent from claim 1 and recites "wherein the program includes information about the data." The Applicant's specification explains at page 5, lines 27-30, that the program 108 may include information about the data stored on the media, such as a description of its contents or a directory of files included in the data.

Claim 13

Claim 13 is dependent from claim 12 and recites "wherein the information about the data includes a file system directory." The Applicant's specification explains at page

5, lines 27-30, that the information about the data stored on the media may include a directory of files included in the data.

Claim 14

Claim 14 is dependent from claim 1 and recites "wherein the data is stored on the data storage medium as raw data blocks." The Applicant's specification explains at page 6, lines 4-5, that the data 102-106 may be stored as raw data blocks.

Claim 15

Applicant's claim 15 is an independent claim which is directed toward "[a]n article of manufacture comprising a computer usable medium having data stored thereon." Figure 1 of the Applicant's specification illustrates a data storage medium 100 upon which data 102-106 can be stored and from which the data 102-106 can be retrieved. The Applicant's specification further explains at page 4, lines 16-24, that the data 102-106 is stored on the medium 100. Page 4, lines 16-24, also explains that the medium 100 may be a magnetic tape, a magnetic disk (e.g., floppy or hard disk), optical storage (e.g., CD or DVD) or solid-state storage (e.g., RAM or DRAM).

Claim 15 also recites that the computer usable medium has "computer readable program code stored thereon." As explained in the Applicant's specification at page 4, lines 16-26, a computer program 108 may also be stored on the medium 100, along with the data 102-106. The program 108 is shown stored on the medium 100 in Figure 1 of the Applicant's specification.

Claim 15 further recites "the computer readable program code including a first

routine for accessing the data in response to a request for access to the data in an archival format." As explained in the Applicant's specification at page 5, lines 1-3, the program 108 may include one or more software routines that may be invoked in response to requests for access to the data 102-106. And, as explained at page 6, line 4-6, the data may be stored in accordance with an archival format such as CPIO (CoPy In/Out) or TAR (Tape ARchive). The Applicant's specification further explains at page 7, lines 14-17, that one type of request may be to access the data 102-106 may assume that the data 102-106 is stored according to a standardized archival format, such as CPIO or TAR.

In addition, claim 15 recites that the computer readable program code also includes "a second routine for accessing the data in response to a request for access to the data in a non-archival format." As explained at page 7, line 27, to page 8, line 4, another type of request may be to access the data as though the data were a file system, which is a non-archival format.

Claim 16

Claim 16 is dependent from claim 15 and recites "wherein said second routine supports accessing the data as a logical volume." The Applicant's specification explains at page 3, lines 11-12, and at page 7, lines 13-22, that a request for access to the data may be to access the data as though the data were a set of logical volumes and that one or more logical volumes or particular logical blocks may be specified. And, as explained at page 7, line 14-26, a routine is called that is appropriate to the type of the request.

Claim 17

Claim 17 is dependent from claim 15 and recites "wherein said first routine supports accessing the data as an image copy." The Applicant's specification explains at page 4, lines 22-24, that the data 102-106 may be stored on the media 100 as an image back-up collection, that is, as raw data blocks that are not specially reformatted for storage. And, at page 7, lines 14-15, that a request may be to access the data 102-106 as though the data 102-106 were an image backup.

Claim 18

Claim 18 is dependent from claim 15 and recites "wherein the second routine supports accessing all of the data as a file structure." The Applicant's specification explains at page 7, line 27, to page 8, line 4, that a request may be to access the data as though the data were a file system. And, page 7, line 31, to page 8, line 2, it explains that an example of this type of request may be to reconstruct the entire data collection 102-106 as a file system (e.g., to be stored on the hard drive of the computer system 400).

Claim 19

Claim 19 is dependent from claim 15 and recites "wherein the second routine supports accessing the data as at least one specified file." The Applicant's specification explains at page 7, line 27, to page 8, line 4, that a request may be to access the data as though the data were a file system. And, page 7, line 31, to page 8, line 2, it explains that an example of this type of request is a request to retrieve a specified file (e.g., by file name: "XXX/YYY").

Claim 20

Claim 20 is dependent from claim 15 and recites "wherein the program code includes information about the data." The Applicant's specification explains at page 5, lines 27-30, that the program 108 may include information about the data 102-106 stored on the media 100 and that this may include, for example, the amount of data 102-106, a description of its contents or a directory of files included in the data 102-106.

Claim 21

Claim 21 is dependent from claim 20 and recites "wherein the information about the data includes a file system directory." The Applicant's specification explains at page 5, lines 27-30, that the information which is included in the program 108 about the data 102-106, may include, for example, the amount of data, a description of its contents or a directory of files included in the data.

Claim 22

Applicant's claim 22 is an independent claim which is directed toward "[a]n article of manufacture comprising a computer usable medium having data stored thereon." Figure 1 of the Applicant's specification illustrates a data storage medium 100 upon which data 102-106 can be stored and from which the data 102-106 can be retrieved. The Applicant's specification explains at page 4, lines 16-24, the data 102-106 is stored on the medium 100. At page 4, lines 16-24, it also explains that the medium 100 may be a magnetic tape, a magnetic disk (e.g., floppy or hard disk), optical storage (e.g.,

CD or DVD) or solid-state storage (e.g., RAM or DRAM).

Claim 22 also recites that the computer usable medium has "computer readable program code stored thereon." As explained in the Applicant's specification at page 4, lines 16-26, a computer program 108 may also be stored on the medium 100, along with the data 102-106. The program 108 is shown stored on the medium 100 in Figure 1 of the Applicant's specification.

Claim 22 further recites "the computer readable program code including a first routine for accessing the data in response to a request from a first target system type." In addition, claim 22 recites that the computer readable program code includes "a second routine for accessing the data in response to a request from a second target system type."

The Applicant's specification explains at page 5, lines 1-3, that the program 108 may include one or more software routines that may be invoked in response to requests for access to the data 102-106. The Applicant's specification also explains at page 5, lines 15-21, that the software routines or application program interfaces (APIs) of the program 108 accommodate different target systems, such as different virtual machine architectures, different instruction sets, different computer languages, and different operating system variants. Accordingly, as explained at page 3, lines 12-14, the first request type may be by a first target system type while the second request type may be by a second target system type.

Claim 23

Claim 23 is dependent from claim 22 and recites "wherein said program presents the requested data formatted in accordance with the target system type." The Applicant's

specification explains at page 9, lines 15-21, that retrieved data may be presented differently to different target systems, even if essentially the same request is received; thus, for example, a request for a specific file may return the specified file, but formatted differently depending on the type of target system that made the request.

Claim 24

Claim 24 is dependent from claim 23 and recites "wherein the data is stored on the data storage medium as raw data blocks." The Applicant's specification explains at page 6, lines 4-5, that the data 102-106 may be stored as raw data blocks.

Claim 25

Applicant's claim 25 is an independent claim which is directed toward "[a]n article of manufacture comprising a computer usable data storage medium having data stored thereon." Figure 1 of the Applicant's specification illustrates a data storage medium 100 upon which data 102-106 can be stored and from which the data 102-106 can be retrieved. The Applicant's specification explains at page 4, lines 16-24, that the data 102-106 is stored on the medium 100. At page 4, lines 16-24, it also explains that the medium 100 may be a magnetic tape, a magnetic disk (e.g., floppy or hard disk), optical storage (e.g., CD or DVD) or solid-state storage (e.g., RAM or DRAM).

Claim 25 also recites that the computer usable medium has "computer readable program code stored on secondary storage associated with the data storage medium." The Applicant's specification explains at page 4, lines 24-30, that rather than the program 108 being stored on the same storage medium 100 as the data 102-106, the program 108

may be stored on secondary storage associated with the media 100, such as a "smart chip" built into a magnetic tape cartridge.

Claim 25 further recites "the computer readable program code including a first routine for accessing the data in response to a request of a first request type." In addition, claim 25 recites that the computer readable program code includes "a second routine for accessing the data in response to a second request type." The Applicant's specification explains at page 7, lines 13-22, that a request for access to the data may be one of two principle types: for example, one type of request may be to access the data as though the data were an image backup or a set of logical volumes. As explained at page 7, line 27, to page 8, line 4, another type of request may be to access the data as though the data were a file system.

Finally, claim 25 recites "wherein the secondary storage is built into a cartridge for the data storage medium." As explained in the Applicant's specification at page 4, lines 24-30, rather than the program 108 being stored on the same storage medium 100 as the data 102-106, the program 108 may be stored on secondary storage associated with the media 100, such as a "smart chip" built into a magnetic tape cartridge.

Claim 27

Claim 27 is dependent from claim 1 and recites "wherein the data is stored on the data storage medium as one or more raw data blocks." The Applicant's specification explains at page 6, lines 4-5, that the data 102-106 may be stored as raw data blocks.

Claim 28

Claim 28 is dependent from claim 1 and recites "wherein the data storage medium is removable." The applicant's specification at page 4, lines 18-21, gives several examples of the data storage medium, such as magnetic tape, magnetic disk (e.g., floppy or hard disk), optical storage (e.g., CD or DVD) or solid-state storage (e.g., RAM or DRAM). At least some of these examples are removable.

Claim 29

Claim 29 is dependent from claim 15 and recites "wherein said first routine supports accessing the data as one or more raw data blocks." The Applicant's specification explains at page 6, lines 4-5, that the data 102-106 may be stored as raw data blocks.

Claim 30

Claim 30 is dependent from claim 15 and recites "wherein the data storage medium is removable." Applicant's specification at page 4, lines 18-21, gives several examples of the data storage medium, such as magnetic tape, magnetic disk (e.g., floppy or hard disk), optical storage (e.g., CD or DVD) or solid-state storage (e.g., RAM or DRAM). At least some of these examples are removable.

Claim 31

Claim 31 is dependent from claim 22 and recites "wherein the data is stored in accordance with an archival format." The Applicant's specification explains at page 6,

line 4-6, that the data may be stored in accordance with an archival format such as CPIO (CoPy In/Out) or TAR (Tape ARchive).

Claim 32

Claim 32 is dependent from claim 22 and recites "wherein the data storage medium is removable." Applicant's specification at page 4, lines 18-21, gives several examples of the data storage medium, such as magnetic tape, magnetic disk (e.g., floppy or hard disk), optical storage (e.g., CD or DVD) or solid-state storage (e.g., RAM or DRAM). At least some of these examples are removable.

Claim 33

Claim 33 is dependent from claim 25 and recites "wherein the data storage medium is removable." Applicant's specification at page 4, lines 18-21, gives several examples of the data storage medium, such as magnetic tape, magnetic disk (e.g., floppy or hard disk), optical storage (e.g., CD or DVD) or solid-state storage (e.g., RAM or DRAM). At least some of these examples are removable.

(vi) Grounds of Rejection to be Reviewed on Appeal

Whether claims 15-25 and 29-33 are unpatentable under 35 U.S.C. § 101 as allegedly being drawn to non-statutory subject matter.

Whether claims 15, 22, 25, 28, 30 and 32-33 are unpatentable 35 U.S.C. § 102 as allegedly being anticipated by U.S. Patent Publication No. 2001/0054131 by Alvarez II, et al. (hereinafter "Alvarez").

Whether claims 1, 6-12, 16-19, 20-21 and 23 are unpatentable under 35 U.S.C. § 103 as allegedly being obvious in view of Alvarez and U.S. Patent No. 5,813,009 to Johnson et al. (hereinafter "Johnson").

Whether claims 2-5, 13-14, 24, 27, 29 and 31 are unpatentable under 35 U.S.C. § 103 as allegedly being obvious in view of Alvarez, Johnson and further in view of U.S. Patent Publication No. 2002/0152194 by Sathyanarayan (hereinafter "Sathyanarayan").

(vii) Argument

Prior to addressing the individual points made in the office action being appealed, the Applicant would like briefly summarize prosecution of this application to date. This application has been pending for more than seven years, during which time, there have been approximately eight substantive office actions. The Applicant appealed final rejections on two separate occasions (once by filing a pre-appeal brief and later by filing an appeal brief). In both cases, the rejections were withdrawn and prosecution re-opened with new grounds for rejection. The Applicant now addresses those new grounds for rejection in what is now the third time on appeal.

a. Rejections under 35 U.S.C. § 101

Claims 15 and 22

Independent claims 15 and 22 were rejected under 35 U.S.C. § 101, as allegedly being directed toward non-statutory subject matter. The office action mailed on July 10, 2008, alleges that the computer usable medium is not clearly supported in the specification such that the claimed computer usable medium "might be 'communication

media' and/or 'transmission media', both of which are carrying the signal, which is non-statutory subject matter, signal per se." See office action mailed on July 10, 2008, at page 4. The office action further alleges:

The claim 15 and 22 are drawn to a form of energy. Energy is not one of the four categories of invention and therefore this claim(s) is/are not statutory. Energy is not a series of steps or acts and thus is not a process. Energy is not a physical article or object and as such is not a machine or manufacture. Energy is not a combination of substances and therefor not a composition of matter.

See office action mailed on July 10, 2008, at page 4.

The Applicants respectfully disagree with the rejection. Independent claims 15 and 22 are clearly directed toward articles of manufacture comprising a computer usable medium having data stored thereon and having computer readable program code stored thereon. Claims 15 and 22 further recite that the computer readable program code includes first and second routines that perform access to the data in response to requests for access to the data. In other words, claims 15 and 22 recite data structures and computer programs which are recorded on a computer readable medium and which impart functionality when employed as a computer component. It is well settled that claims of this type are statutory. See, *In re Beauregard*, 53 F.3d 1583, 35 USPQ2d 1383 (Fed. Cir. 1995) and *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

The Manual of Patent Examining Procedure states as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive

material" includes but is not limited to music, literary works, and a compilation or mere arrangement of data.

Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)(discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory).

Manual of Patent Examination Procedure, Section 2106.01 (8th Ed. July 2008).

Therefore, claims 15 and 22 are directed toward functional descriptive material which is recorded on computer-readable medium. Claims 15 and 22 are clearly not directed toward "communication media" or "transmission media" as suggested in the office action. This is because the claims themselves require that data and program code are "stored" on the medium. Further, contrary to the assertion contained in the office action, the computer usable medium is well-described in the Applicant's specification. See, for example, Figure 1 of the Applicant's specification where storage media 100 is clearly illustrated; see also, page 4, lines 16-21, where it is clearly stated that data 102-106 and a program 108 are "stored thereon." Nowhere does the Applicant's specification suggest that the claimed medium is a communication or transmission medium.

The Applicant also disagrees with the assertion in the office action that claims 15 and 22 are "drawn to a form of energy." There is no explanation in the office action as to how one might reasonably conclude that claims 15 and 22 are drawn to a form of energy.

This bald assertion is simply not supported by any facts.

In view of the above, the Applicant respectfully submits that claims 15 and 22 are directed toward statutory subject matter. Claims 16-21, 23-24 and 29-32 are directed toward statutory subject matter at least because they depend from a statutory base claim 15 or 22. Therefore, the Applicant respectfully requests reversal of the rejection of these claims.

Claims 16-21

Claims 16-21 stand or fall together with claim 15 from which they depend.

Claim 23

Claim 23 is dependent from claim 22 and recites "wherein said program presents the requested data formatted in accordance with the target system type." Accordingly, claim 23 recites additional functionality which is imparted when the program is executed. Namely, that the requested data is presented formatted in accordance with the target system type. Therefore, this is an additional reason why claim 23 is statutory under the rationales of *In re Lowry* and *In re Beauregard*, cited above.

Claim 24

Claim 24 stands or falls together with claim 22 from which it depends.

b. Rejections under 35 U.S.C. § 102 in view of Alvarez

Claim 15

Claim 15, along with several other pending claims, is rejected under 35 U.S.C. § 102 as allegedly being anticipated by Alvarez. Regarding claim 15, the office action indicates that Alvarez discloses all of its limitations at: page 1, paragraph [0010], lines 13-19; page 2, paragraph [0015], lines 4-10; page 20, paragraph [0288], lines 1-6; page 30, paragraph [0422], lines 16-20; and page 38, paragraphs [0538]-[0539]. See office action mailed on July 10, 2008, at page 16.

The Applicant respectfully traverses the rejection. In order to anticipate a claim, the prior art reference must disclose, either expressly or inherently, each and every element as set forth in the claim in the same manner that those elements are arranged in the claim. See Manual of Patent Examining Procedure, at Section 2131 (8th Ed. July 2008). The Applicants respectfully submit that, under this standard, Alvarez does not anticipate Applicant's claim 15.

Applicants' claim 15 recites as follows:

15. An article of manufacture comprising a computer usable medium having data stored thereon and having computer readable program code stored thereon, the computer readable program code including a first routine for accessing the data in response to a request for access to the data in an archival format and a second routine for accessing the data in response to a request for access to the data in a non-archival format.

According to its terms, Applicants' claim 15 recites "a computer usable medium having data stored thereon and having computer readable program code stored thereon." Claim 15 specifies that the program code includes multiple routines for accessing the data. Therefore, the multiple routines used to access the data are stored on the same data storage medium that stores the data to be accessed.

The relied upon portions of Alvarez do not disclose such an arrangement as is recited by Applicant's claim 15. Alvarez is generally directed toward a system and method for performing parallel data compression in which stream data is processed at more than a single byte or symbol (character) at a time. See Abstract of Alvarez. More particularly, at page 1, paragraph [0010], lines 13-19, Alvarez, in its discussion of "related art," discusses that software controlled compression and decompression algorithms typically controlled by a CPU for non-volatile memory reduction techniques cannot be applied to real time applications that require high data rates such as audio, video, and graphics applications. It appears to the Applicant that this discussion is unrelated to the limitations of Applicant's claim 15. Moreover, this discussion in Alvarez is of "related art." As such, it also does not appear to disclose features of the invention of Alvarez.

At page 2, paragraph [0015], lines 4-10, Alvarez discusses in its "summary of the invention," that a memory module includes a compression/decompression engine, preferably parallel data compression and decompression slices, that are embedded into the memory module. This portion of Alvarez also discusses that "[t]he memory module may not require specialty memory components or system software changes for operation." It is not clear from the office action which limitation(s) of Applicant's claim

15 are alleged to be anticipated by this portion of Alvarez. In any event, however, the Applicants respectfully submit that this portion of Alvarez does not suggest or disclose that multiple routines used to access data are stored on the same data storage medium that stores the data to be accessed, as is required by Applicant's claim 15.

At page 20, paragraph [0288], lines 1-6; page 30, which is also relied upon in the office action, Alvarez states as follows:

Also, in an alternate embodiment the CPU 102 may perform the compression and/or decompression in software according to the present invention. In another embodiment, the decompression process can be performed by logic while the compression can be performed by software executing on the CPU 102.

It is also not clear from the office action which limitation(s) of Applicant's claim 15 are alleged to be anticipated by this portion of Alvarez. In any event, however, the Applicants respectfully submit that this portion of Alvarez also does not disclose that multiple routines used to access data are stored on the same data storage medium that stores the data to be accessed, as is required by Applicant's claim 15.

Further, at page 30, paragraph [0422], lines 16-20, which is also relied upon in the office action, Alvarez states as follows:

However, for the preferred embodiment the four stages shown are the logical divisions of the function. To understand this novel decompression the table of FIG. 32 illustrates the compression mask and index coding algorithm for a sample code. In alternate embodiment other codes could alter the design of the decompression unit.

It is also not clear from the office action which limitation(s) of Applicant's claim 15 are alleged to be anticipated by this portion of Alvarez. The Applicants respectfully submit that this portion of Alvarez is unrelated to the limitations of Applicant's claim 15.

Finally, the office action relies on Alvarez at page 38, paragraphs [0538]-[0539].

At paragraph [0538], Alvarez discusses that digital audio tape (DAT) is a standard medium and technology for the recording of audio on tape at a professional level of quality. And, at paragraph [00539], Alvarez discusses that DAT is also used for recording computer data. Again, it is not clear from the office action which limitation(s) of Applicant's claim 15 are alleged to be anticipated by this portion of Alvarez. In any event, however, the Applicants respectfully submit that paragraphs [0538] and [0539] of Alvarez also do not disclose that multiple routines used to access data are stored on the same data storage medium that stores the data to be accessed, as is required by Applicant's claim 15.

Therefore, the relied-upon portions of Alvarez, even when considered collectively, do not appear to teach or suggest that multiple routines used to access data are stored on the same data storage medium that stores the data to be accessed, as is required by Applicant's claim 15. For at least this reason, the Applicant respectfully requests removal of the rejection of claim 15.

Moreover, Applicant's claim 15 recites that the program used to access the data includes a first routine for accessing the data in response to a request for access to the data in an archival format and a second routine for accessing the data in response to a request for access to the data in a non-archival format. Therefore, Applicant's claim 15 requires that the stored routines are alternatives and that one of the routines is chosen to access the data in response to the nature of the request (i.e. its type) that is received for access to the data.

It is not clear from the office action how Alvarez is alleged to anticipate this feature of Applicant's claim 15. The Applicant believes that it does not. Therefore, the

Applicant respectfully submits that this is another reason why the rejection of Applicant's claim 15 should be removed.

In view of the above, the Applicant respectfully requests reversal of the rejection of claim 15.

Claim 22

Applicant's claim 22 is rejected as being anticipated by Alvarez with reliance on the same portions of Alvarez that were relied upon in the rejection of Applicant's claim 15, discussed above. Particularly, the office action indicates that Alvarez discloses all of the limitations of Applicant's claim 22 at: page 1, paragraph [0010], lines 13-19; page 2, paragraph [0015], lines 4-10; page 20, paragraph [0288], lines 1-6; page 30, paragraph [0422], lines 16-20; and page 38, paragraphs [0538]-[0539]. See office action mailed on July 10, 2008, at pages 16-17.

The Applicant respectfully traverses the rejection. Applicants' claim 22 recites as follows:

22. An article of manufacture comprising a computer usable medium having data stored thereon and having computer readable program code stored thereon, the computer readable program code including a first routine for accessing the data in response to a request from a first target system type and a second routine for accessing the data in response to a request from a second target system type.

Therefore, Applicant's claim 22 recites "a computer usable medium having data stored thereon and having computer readable program code stored thereon." The program code includes multiple routines for accessing the data. Thus, similarly to claim 15, discussed above, the multiple routines used to access the data are stored on the same data storage medium that stores the data to be accessed. As explained above in connection with claim 15, the relied-upon portions of Alvarez do not suggest or disclose such a feature.

Moreover, Applicant's claim 22 recites that the program used to access the data includes a first routine for accessing the data in response to a request from a first target system type and a second routine for accessing the data in response to a request from a second target system type. Therefore, Applicant's claim 22 requires that both such routines are stored on the data storage medium. Claim 22 also requires that the routines are alternatives and that one of the routines is chosen to access the data in response to the target system type from which the request for access to the data is received.

It is not clear from the office action how Alvarez is alleged to anticipate this feature of Applicant's claim 22. The Applicant believes that it does not. Therefore, the Applicant respectfully submits that this is another reason why the rejection of Applicant's claim 22 should be removed.

In view of the above, the Applicant respectfully request reversal of the rejection of claim 22.

Claim 25

Applicant's claim 25 is rejected as being anticipated by Alvarez with reliance on the same portions of Alvarez that were relied upon in the rejection of Applicant's claims 15 and 22, discussed above, with additional reliance on Alvarez at paragraphs [0536] and [0537]. Particularly, the office action indicates that Alvarez discloses all of the limitations of Applicant's claim 22 at: page 1, paragraph [0010], lines 13-19; page 2, paragraph [0015], lines 4-10; page 20, paragraph [0288], lines 1-6; page 30, paragraph [0422], lines 16-20; and page 38, paragraphs [0536]-[0539]. See office action mailed on July 10, 2008, at page 17.

The Applicant respectfully traverses the rejection. Applicants' claim 22 recites as follows:

25. An article of manufacture comprising a computer usable data storage medium having data stored thereon and having computer readable program code stored on secondary storage associated with the data storage medium, the computer readable program code including a first routine for accessing the data in response to a request of a first request type and a second routine for accessing the data in response to a second request type, wherein the secondary storage is built into a cartridge for the data storage medium.

Therefore, claim 25 recites "a computer usable medium having data stored thereon and having computer readable program code stored on secondary storage associated with the computer usable medium ... wherein the secondary storage is built into a cartridge for the data storage media." The program code includes multiple routines

for accessing the data. Therefore, claim 25 recites a cartridge for a data storage medium wherein data stored is stored on the medium and also recites secondary storage built into the cartridge wherein multiple routines for accessing the data are stored on the secondary storage.

The portions of Alvarez at page 1, paragraph [0010], lines 13-19; page 2, paragraph [0015], lines 4-10; page 20, paragraph [0288], lines 1-6; page 30, paragraph [0422], lines 16-20; and page 38, paragraphs [0536]-[0539], are discussed above in connection with Applicant's claim 15. None of these portions of Alvarez, even when considered collectively, appears to disclose a cartridge for a data storage medium wherein data stored is stored on the medium and also secondary storage built into the cartridge wherein multiple routines for accessing the data are stored on the secondary storage, as is required by Applicant's claim 25.

In view of the above, the Applicant respectfully requests removal of the rejection of claim 25.

Moreover, Applicant's claim 25 recites that the program used to access the data includes a first routine for accessing the data in response to a request of a first request type and a second routine for accessing the data in response to a second request type. Therefore, Applicant's claim 25 requires that both such routines are stored on the secondary storage. Claim 25 also requires that the routines are alternatives and that one of these routines is chosen to access the data in response to the nature of the request (i.e. its type) that is received for access to the data.

It is not clear from the office action how Alvarez is alleged to anticipate this feature of Applicant's claim 25. The Applicant believes that it does not. Therefore, the

Applicant respectfully submits that this is another reason why the rejection of Applicant's claim 25 should be removed.

In view of the above, the Applicant respectfully request reversal of the rejection of claim 25.

Claim 28

Claim 28 is dependent from claim 1 and recites "wherein the data storage medium is removable." The office action mailed on July 10, 2008, alleges that Alvarez discloses this limitation at paragraph [0053] by its disclosure of a CD or DVD. See office action mailed on July 10, 2008, at page 18. The Applicant respectfully disagrees. Claim 28 must be considered in conjunction with claim 1 from which it depends, as a whole. Therefore, claim 28 requires that data to be accessed is stored on a data storage medium having a cartridge wherein a secondary storage is built into the cartridge that stores multiple routines for accessing the data and that such a data storage medium is removable. The Applicant respectfully submits that Alvarez does not disclose such features.

Therefore, this is another reason why claim 28 is allowable.

Claim 30

Claim 30 is dependent from claim 15 and recites "wherein the data storage medium is removable." The office action mailed on July 10, 2008, alleges that Alvarez discloses this limitation at paragraph [0053] by its disclosure of a CD or DVD. See office action mailed on July 10, 2008, at page 18. The Applicant respectfully disagrees.

Rather, claim 30 must be considered in conjunction with claim 15 from which it depends, as a whole. Therefore, claim 30 requires that the program code used to access the data is stored on the same data storage medium that stores the data to be accessed and that such a data storage medium is removable. The Applicant respectfully submits that Alvarez does not disclose such features.

Therefore, this is another reason why claim 30 is allowable.

Claim 32

Claim 32 is dependent from claim 22 and recites "wherein the data storage medium is removable." The office action mailed on July 10, 2008, alleges that Alvarez discloses this limitation at paragraph [0053] by its disclosure of a CD or DVD. See office action mailed on July 10, 2008, at page 18. The Applicant respectfully disagrees. Rather, claim 32 must be considered in conjunction with claim 22 from which it depends, as a whole. Therefore, claim 32 requires that the program code used to access the data is stored on the same data storage medium that stores the data to be accessed and that such a data storage medium is removable. The Applicant respectfully submits that Alvarez does not disclose such features.

Therefore, this is another reason why claim 32 is allowable.

Claim 33

Claim 33 is dependent from claim 25 and recites "wherein the data storage medium is removable." The office action mailed on July 10, 2008, alleges that Alvarez discloses this limitation at paragraph [0053] by its disclosure of a CD or DVD. See

office action mailed on July 10, 2008, at page 18. The Applicant respectfully disagrees. Rather, claim 33 must be considered in conjunction with claim 15 from which it depends, as a whole. Therefore, claim 33 requires that is data stored in a cartridge, that program code for accessing the data is stored in secondary storage built into the cartridge, and that such a data storage medium is removable. The Applicant respectfully submits that Alvarez does not disclose such features.

Therefore, this is another reason why claim 33 is allowable.

c. Rejections under 35 U.S.C. § 103 in view of Alvarez and Johnson

Claim 1

Claim 1 stands rejected under 35 U.S.C. § 103 as allegedly being obvious in view of Alvarez combined with Johnson. Particularly, the office action mailed on July 10, 2008, alleges that Alvarez discloses "a method of retrieving data from a data storage medium" at: page 2, paragraph [0023], lines 10-15; page 26, paragraph [0375], lines 1-10; page 27, paragraph [0380], lines 1-5; and page 27, paragraph [0386], lines 1-3. The office action further alleges that Alvarez discloses all of the limitations of the claimed step of "loading a program from the data storage medium into a computer system..." at: page 1, paragraph [0010], lines 13-19; page 2, paragraph [0015], lines 4-10; page 20, paragraph [0288], lines 1-6; page 30, paragraph [0422], lines 16-20; and page 38, paragraphs [0538]-[0539]. The office action also alleges that Alvarez discloses all of the limitations of the claimed step of "receiving a request..." at page 3, paragraph [0026], lines 1-14; page 3, paragraph [0029], lines 1-10; and page 3, paragraph [0031], lines 3-12. The office action further alleges that Alvarez discloses all of the limitations of the

claimed step of "determining whether the request is of the first type of the second type..." at Figures 6-7, and page 12, paragraph [0187], lines 1-30, and paragraph [0188], lines 1-25. See office action mailed on July 10, 2008, at pages 5-6.

The office action indicates that Alvarez does not disclose "calling the first routine for accessing the data when the request is of the first type and calling the second routine for accessing the data when the request is of the second type; and presenting the requested data." However, the office action alleges that Johnson discloses all of the limitations of these steps by its disclosure of "calling the utility to access the data and displaying the data" at: column 19, lines 50-67; column 20, lines 1-10; and column 28, lines 31-40. Finally, the office action alleges that it would have been obvious to modify Alvarez to include the teachings of Johnson since "[o]ne of ordinary skill in the art would have found it motivated to utilize the use of calling the utility to access the data and presenting the result of the data as disclosed (JOHNSON'S col. 20, lines 1-10, and col. 1, lines 50-67). See office action mailed on July 10, 2008, at page 6.

The Applicant respectfully disagrees with the rejection. "Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966). See also, *KSR Intl. Co. v. Teleflex Inc.*, 550 U.S. ____ (2007). Moreover, in order to properly reject a patent claim under 35

U.S.C. § 103, the claimed subject matter must be considered as a whole. *See* 35 U.S.C. § 103.

Applicant's claim 1 recites "retrieving data from a data storage medium comprising ... loading a program from the data storage medium ... receiving a request for access to data stored on the data storage medium... accessing the data...". Claim 1 requires that the program code includes multiple routines for accessing the data. Therefore, claim 1 requires that the multiple routines are loaded from the data storage medium and that the accessed data is stored on the data storage medium. This means that the multiple routines are loaded from the same data storage medium that stores the data to be accessed, similarly to claims 15, 22 and 25 discussed above.

As explained above in connection with Applicant's claims 15, 22 and 25, the relied-upon portions of Alvarez do not appear to suggest or disclose such a feature. Johnson also does not appear to disclose such a feature; nor is there any allegation in the office action that it does. Therefore, at least because neither Alvarez nor Johnson appears to teach or suggest that a program for accessing data is loaded from the same data storage medium that stores the data to be accessed, Applicant's claim 1 is allowable over Alvarez and Johnson, taken singly or in combination.

Moreover, Applicant's claim 1 recites that the program used to access the data includes a first routine for responding to a first request type for access to data stored on the data storage medium and a second routine for responding to a second request type for access to the same data stored on the data storage medium. Claim 1 further recites determining whether the request is of the first type or the second type and calling the first routine for accessing the data when the request is of the first type and calling the second

routine for accessing the data when the request is of the second type. Therefore, Applicant's claim 1 requires that the routine is chosen depending upon the nature of the request (i.e. its type) that is received for access to the data.

The office action alleges that Alvarez discloses some of these features of claim 1 and that Johnson discloses others of these features. However, neither of the references teaches or suggests that a routine may be chosen depending upon the nature of such a request (i.e. its type) that is received for access to the data. This is clear because the office action admits that Alvarez does not disclose "calling the first routine for accessing the data when the request is of the first type and calling the second routine for accessing the data when the request is of the second type." Further, the portion of Johnson that is relied upon also does not disclose calling different data access routines depending upon the type of a request that is received for access to the data. For example, at column 20, lines 1-10, Johnson discusses several system utilities that can be called, namely, "send a message," "save a file," "send fax," "print," "view message" and "search." However, there is no teaching in Johnson that these are alternative data access routines chosen depending upon the type of request that is received to access the data. Rather, these utilities would need to be specifically identified in order to be called.

Therefore, the Applicant respectfully submits that this feature of Applicant's claim 1 is also not taught or suggested by Alvarez or Johnson, taken singly or in combination. This is another reason why the rejection of Applicant's claim 1 should be removed.

Further, the Applicant respectfully submits that even if Alvarez and Johnson did separately disclose the claim limitations which they are alleged to disclose, the office action mailed on does not provide a *prima facie* case for obviousness. This is because the

office action merely alleges that a person would have been motivated to combine Johnson into Alvarez since "[o]ne of ordinary skill in the art would have found it motivated to utilize the use of calling the utility to access the data and presenting the result of the data as disclosed (JOHNSON'S col. 20, lines 1-10, and col. 1, lines 50-67)." See office action mailed on July 10, 2008, at page 6. The Applicants respectfully submit that this statement is merely a conclusion of obviousness but is lacking any reason why the combination is alleged to have been obvious. As stated in *KSR Intl. Co. v. Teleflex*, "[r]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obvious-ness." 550 U.S. ____ (2007), citing, *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006). Therefore, the Applicant respectfully submits that this is another reason why the rejection of claim 1 should be removed.

In view of the above, the Applicant respectfully requests reversal of the rejection of claim 1.

Claim 6

Claim 6 is dependent from claim 1 and recites "wherein the first request type includes a request for one or more files from a file system." The office action mailed on July 10, 2008, alleges that Johnson discloses this limitation with reliance on Johnson at column 11, lines 22-24; and column 14, lines 71-15(sic). See office action mailed on July 10, 2008, at page 7. The Applicant respectfully disagrees. Rather, claim 6 must be considered in conjunction with claim 1 from which it depends, as a whole. See 35 U.S.C.

§ 103. As explained above in connection with claim 1, Johnson does not disclose alternative routines which are selected based on a type of request received for access to data. Accordingly, Johnson also does not disclose that such a request type includes a request for one or more files from a file system.

Therefore, this is another reason why claim 6 and its dependent claims 8 and 9 are allowable.

Claim 7

Claim 7 is dependent from claim 1 and recites "wherein said presenting includes reformatting all of the data as a file structure." The office action mailed on July 10, 2008, alleges that Alvarez discloses this limitation at page 2, paragraph [0023], lines 1-15; page 3, paragraphs [0026] and [0027]; and page 10, paragraph [0154m4](sic), lines 1-18. See office action mailed on July 10, 2008, at page 8. The Applicant respectfully disagrees. Rather, claim 7 must be considered in conjunction with claim 1 from which it depends, as a whole. See 35 U.S.C. § 103. Therefore, claim 7 requires reformatting all of the data stored in an archival format as a file structure. The Applicant has studied these portions of Alvarez and is unable to find such a teaching. Rather, these portions of Alvarez discuss data compression and decompression of individual audio/video/graphics data files.

Therefore, this is another reason why claim 7 is allowable.

Claim 8

Claim 8 is dependent from claim 6 and recites "wherein the second request type

includes a request for one or more logical volumes." The office action mailed on July 10, 2008, appears to rely on Johnson at column 15, lines 30-35, and column 16, lines 16-22, as allegedly disclosing this limitation. See office action mailed on July 10, 2008, at page 7. The Applicant respectfully disagrees. These portions of Johnson discuss checking appropriateness of a volume for storage. This is unrelated to using a request type for one or more logical volumes to select a routine for responding to the request, as is required by Applicant's claim 8.

Therefore, this is another reason why claim 8 is allowable.

Claim 9

Claim 9 is dependent from claim 6 and recites "wherein the second request type includes a request for an image copy of the data." The office action mailed on July 10, 2008, appears to rely on Johnson at column 18, lines 53-62; column 20, lines 36-45; and column 28, lines 5-20, as allegedly disclosing this limitation. See office action mailed on July 10, 2008, at page 7. The Applicant respectfully disagrees. These portions of Johnson refer to "stored image and electronic files." However, this does not suggest or disclose using a request type for an image copy of the data to select a routine for responding to the request, as is required by Applicant's claim 9.

Therefore, this is another reason why claim 9 is allowable.

Claim 10

Claim 10 is dependent from claim 1 and recites "wherein the first request type is by a first target system type and the second request type is by a second target system

type." It is not clear from the office action where in the cited art this limitation is alleged to have been disclosed. See office action mailed on July 10, 2008, at pages 7-8. The Applicants respectfully submit that this is another reason why the rejection of claim 10 and its dependent claim 11 should be removed.

Claim 11

Claim 11 is dependent from claim 10 and recites "wherein said presenting the requested data includes formatting the data in accordance with the target system type." It is not clear from the office action where in the cited art this limitation is alleged to have been disclosed. See office action mailed on July 10, 2008, at pages 7-8. The Applicants respectfully submit that this is another reason why the rejection of claim 11 should be removed.

Claim 12

Claim 12 stands or falls together with claim 1 from which it depends.

Claim 16

Claim 16 is dependent from claim 15 and recites "wherein said second routine supports accessing the data as a logical volume." The office action mailed on July 10, 2008, appears to rely on Johnson at column 15, lines 30-35, and column 16, lines 16-22, as allegedly disclosing this limitation. See office action mailed on July 10, 2008, at page 9. The Applicant respectfully disagrees. These portions of Johnson discuss checking appropriateness of a volume for storage. This is unrelated to using a request type for one

or more logical volumes to select a routine for responding to the request, as is required by Applicant's claim 16.

Therefore, this is another reason why claim 16 is allowable.

Claim 17

Claim 17 is dependent from claim 15 and recites "wherein said first routine supports accessing the data as an image copy." The office action mailed on July 10, 2008, appears to rely on Johnson at column 18, lines 53-62; column 20, lines 36-45; and column 28, lines 5-20, as allegedly disclosing this limitation. See office action mailed on July 10, 2008, at page 9. The Applicant respectfully disagrees. These portions of Johnson refer to "stored image and electronic files." However, this does not suggest or disclose using a request type an image copy of the data to select a routine for responding to the request, as is required by Applicant's claim 17.

Therefore, this is another reason why claim 17 is allowable.

Claim 18

Claim 18 stands or falls with claim 15 from which it depends.

Claim 19

Claim 19 stands or falls with claim 15 from which it depends.

Claim 20

Claim 20 stands or falls with claim 15 from which it depends.

Claim 21

Claim 21 stands or falls with claim 20 from which it depends.

Claim 23

Claim 23 is dependent from claim 22 and recites "wherein said program presents the requested data formatted in accordance with the target system type." It is not clear from the office action where in the cited art this limitation is alleged to have been disclosed. See office action mailed on July 10, 2008, at pages 9-10. The Applicants respectfully submit that this is another reason why the rejection of claim 23 should be removed.

d. Rejections under 35 U.S.C. § 103 in view of Alvarez and Johnson
Sathyanarayan

Claim 2

Claim 2 stands or falls together with claim 1 from which it depends.

Claim 3

Claim 3 is dependent from claim 2 and recites "wherein the first set of operations includes file system operations." The office action mailed on July 10, 2008, alleges that Sathyanarayan discloses this limitation paragraphs [0001], [0009], [0018], and [0024]-[0025]. See office action mailed on July 10, 2008, at pages 11-12. The Applicant respectfully disagrees. Rather, claim 3 must be considered in conjunction with claims 1

and 2 from which it depends, as a whole. See 35 U.S.C. § 103. As explained above in connection with claim 1, the cited references do not disclose alternative routines which are selected based on a type of request received for access to data. Accordingly, Sathyanarayan also does not disclose that such routines include first and second sets of operations or that such a first set of operations includes file system operations.

Therefore, this is another reason why claim 3 and its dependent claims 4-5 are allowable.

Claim 4

Claim 4 is dependent from claim 3 and recites "wherein the second set of operations includes standardized archival operations." The office action mailed on July 10, 2008, alleges that Sathyanarayan discloses this limitation paragraphs [0001], [0009], [0018], and [0024]-[0025]. See office action mailed on July 10, 2008, at pages 11-12. The Applicant respectfully disagrees. Rather, claim 4 must be considered in conjunction with claims 1, 2 and 3 from which it depends, as a whole. See 35 U.S.C. § 103. As explained above in connection with claim 1, the cited references do not disclose alternative routines which are selected based on a type of request received for access to data. Accordingly, Sathyanarayan also does not disclose that such routines include first and second sets of operations or that such a second set of operations includes standardized archival operations.

Therefore, this is another reason why claim 4 and its dependent claim 5 are allowable.

Claim 5

Claim 5 stands or falls with claim 4 from which it depends.

Claim 13

Claim 13 stands or falls with claim 12 from which it depends.

Claim 14

Claim 14 stands or falls with claim 1 from which it depends.

Claim 24

Claim 24 stands or falls with claim 22 from which it depends.

Claim 27

Claim 27 stands or falls with claim 1 from which it depends.

Claim 29

Claim 29 stands or falls with claim 15 from which it depends.

Claim 31

Claim 31 is dependent from claim 22 and recites "wherein the data is stored in accordance with an archival format." The office action mailed on July 10, 2008, alleges Sathyanarayan discloses this limitation in paragraphs [0005] and [0007]. See office action mailed on July 10, 2008, at page 13. The Applicant respectfully disagrees.

Rather, claim 31 must be considered in conjunction with claim 22 from which it depends, as a whole. See 35 U.S.C. § 103. Therefore, claim 31 requires that the program code used to access the data is stored on the same data storage medium that stores the data to be accessed and that such data is stored in accordance with an archival format.

Sathyanarayan does not disclose such features.

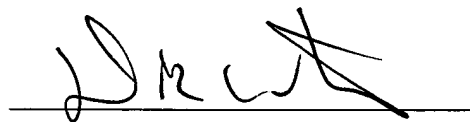
Therefore, this is another reason why claim 31 and is allowable.

(viii) Conclusion

In view of the above, the Applicant submits that all of the pending claims are allowable over the cited art. Accordingly, the Applicant requests that the rejections be reversed.

Respectfully Submitted,

Dated: Dec. 9, 2008

A handwritten signature in black ink, appearing to read 'Derek J. Westberg', is written over a horizontal line.

Derek J. Westberg (Reg. No. 40,872)

(ix) Claims Appendix

1 1. A method of retrieving data from a data storage medium comprising:
2 loading a program from the data storage medium into a computer
3 system, the program including at least a first routine for responding to a
4 first request type for access to data stored on the data storage medium and
5 a second routine for responding to a second request type for access to the
6 same data stored on the data storage medium, the data being stored in
7 accordance with an archival format;
8 receiving a request for access to data stored on the data storage
9 medium;
10 determining whether the request is of the first type or the second type;
11 calling the first routine for accessing the data when the request is of
12 the first type and calling the second routine for accessing the data when
13 the request is of the second type; and
14 presenting the requested data.

1 2. The method according to claim 1, wherein the first routine implements a
2 first set of operations and the second routine implements a second set of
3 operations.

1 3. The method according to claim 2, wherein the first set of operations
2 includes file system operations.

1 4. The method according to claim 3, wherein the second set of operations
2 includes standardized archival operations.

1 5. The method according to claim 4, wherein the second set of operations
2 includes operations selected from CPIO and TAR.

1 6. The method according to claim 1, wherein the first request type includes a
2 request for one or more files from a file system.

1 7. The method according to claim 1, wherein said presenting includes
2 reformatting all of the data as a file structure.

1 8. The method according to claim 6, wherein the second request type
2 includes a request for one or more logical volumes.

1 9. The method according to claim 6, wherein the second request type
2 includes a request for an image copy of the data.

1 10. The method according to claim 1, wherein the first request type is by a
2 first target system type and the second request type is by a second target system
3 type.

1 11. The method according to claim 10, wherein said presenting the requested
2 data includes formatting the data in accordance with the target system type.

1 12. The method according to claim 1, wherein the program includes
2 information about the data.

1 13. The method according to claim 12, wherein the information about the data
2 includes a file system directory.

1 14. The method according to claim 1, wherein the data is stored on the data
2 storage medium as raw data blocks.

1 15. An article of manufacture comprising a computer usable medium having
2 data stored thereon and having computer readable program code stored thereon,
3 the computer readable program code including a first routine for accessing the
4 data in response to a request for access to the data in an archival format and a
5 second routine for accessing the data in response to a request for access to the
6 data in a non-archival format.

1 16. The article according to claim 15, wherein said second routine supports
2 accessing the data as a logical volume.

1 17. The article according to claim 15, wherein said first routine supports
2 accessing the data as an image copy.

1 18. The article according to claim 15, wherein the second routine supports
2 accessing all of the data as a file structure.

1 19. The article according to claim 15, wherein the second routine supports
2 accessing the data as at least one specified file.

1 20. The article according to claim 15, wherein the program code includes
2 information about the data.

1 21. The article according to claim 20, wherein the information about the data
2 includes a file system directory.

1 22. An article of manufacture comprising a computer usable medium having
2 data stored thereon and having computer readable program code stored thereon,
3 the computer readable program code including a first routine for accessing the
4 data in response to a request from a first target system type and a second routine
5 for accessing the data in response to a request from a second target system type.

1 23. The article according to claim 22, wherein said program presents the
2 requested data formatted in accordance with the target system type.

1 24. The article according to claim 23, wherein the data is stored on the data
2 storage medium as raw data blocks.

1 25. An article of manufacture comprising a computer usable data storage
2 medium having data stored thereon and having computer readable program code
3 stored on secondary storage associated with the data storage medium, the
4 computer readable program code including a first routine for accessing the data in
5 response to a request of a first request type and a second routine for accessing the
6 data in response to a second request type, wherein the secondary storage is built
7 into a cartridge for the data storage medium.

1 27. The method according to claim 1, wherein the data is stored on the data
2 storage medium as one or more raw data blocks.

1 28. The method according to claim 1, wherein the data storage medium is
2 removable.

1 29. The article of manufacture according to claim 15, wherein said first
2 routine supports accessing the data as one or more raw data blocks.

1 30. The article of manufacture according to claim 15, wherein the data storage
2 medium is removable.

1 31. The article of manufacture according to claim 22, wherein the data is
2 stored in accordance with an archival format.

1 32. The article of manufacture according to claim 22, wherein the data storage
2 medium is removable.

1 33. The article of manufacture according to claim 25, wherein the data storage
2 medium is removable.

(x) Evidence Appendix

None.

(xi) Related Proceedings Appendix

None